Few changes in the past decade in higher education have changed the landscape of the postsecondary curriculum as much as the addition of service learning to many university courses. Although participation in clinical practica is not new to speech-language pathology and other health care fields, service learning is a relatively new concept in education programs for health professions (Mareck, Uden, Larson, Shepard, & Reinert, 2004). Service learning programs are distinguished from other approaches to experiential education by their core objective of benefiting the service provider and recipients of the service equally. In service learning programs, there is an equal focus on both the service being provided and the learning that results (Furco, 1996).

Service learning has been described by Ferrari and Cather (2002) as a way to develop compassion, insight, professional attitudes, and a sense of caring in future physicians and other health care professionals—qualities that are difficult to teach with standard lecture-style, classroom-based instruction. With service learning, students learn and develop through active participation in thoughtfully organized service that meets the needs of the community, helps foster professional attitudes and responsibilities, and enhances the academic curriculum. To achieve the maximum benefit from service learning, structured time is included in class periods for students to reflect on the service experience (Furco, 1996).

At the heart of the service learning experience is the opportunity to engage students actively in their own education through experiential learning in course-relevant contexts and to foster lifelong connections between students, their communities, and the world outside the classroom (Cruz, 1995). Service learning is a way to link community service and academic study so that each strengthens the other (Ehrlich, 1996). This reciprocal link between the content of the course and the service learning project should make the service learning experience meaningful for all participants (Eyler & Giles, 1999).

The incorporation of service learning into the field of speech-language pathology may also represent an evolution...
of higher education’s role in public service, which may serve to expand the relationship between the university and the community at large. Service learning has been implemented effectively in health care fields such as medicine and nursing (Ferrari & Cather, 2002; Narasavage, Batchelor, Lindell, & Chen, 2003) as well as a variety of educational fields (Karayan & Gathercoal, 2003; Kolenko, Porter, Wheatley, & Colby, 1996). Traditional clinical experiences in speech-language pathology programs are completed apart from coursework. Typically, speech-language pathology students have both university-based and externally based opportunities for clinical experiences that are not course-related service learning projects. An expanded relationship between clinical training and coursework may offer students an opportunity to (a) apply what they have learned in the classroom, (b) gain insight and skills while working separately and together with supervision in a variety of “real” settings, (c) improve their teaming abilities, and (d) deepen their clinical understanding. In this way, the community benefits from the services provided while students profit from the application of learning (Eyler & Giles, 1999).

The outcome data regarding the effects of service learning research are encouraging across multiple fields of study. Sedlak, Doheny, Panthofer, and Anaya (2003) reported improved critical thinking as a result of service learning for students in an undergraduate nursing program. Narasavage et al. (2003) reported improved student leadership skills as well as increased interest in learning and social responsibility in a graduate nursing education program. In a critique of nine service learning projects within university schools of business, researchers found that courses with a service learning component contained a greater emphasis on ethics and resulted in evidence of increased leadership skills (Kolenko et al., 1996). Raupp and Cohen (1992) studied the effects of a service learning component in an undergraduate psychology curriculum. They reported that student benefits included increased empathy and concern for others as well as a better understanding of the hardships faced by others. Students’ comments in written reflections showed increased self-efficacy and self-esteem. Although these benefits are exciting, the impact of service learning on learning itself may be of utmost importance to many instructors.

Positive learning outcomes related to service learning experiences have been reported. For example, Markus, Howard, and King (1993) compared a group of students who were enrolled in an undergraduate political science course with a service learning experience to a group of students enrolled in the same course (with the same instructor using the same materials) without the service learning component. They measured positive learning outcomes and found increased attendance and higher mean grades for students who were enrolled in the section of the course that included the service learning component.

Although authors have reported moral, philanthropic, and learning benefits of service learning by college instructors, less is known about the perceived effects of service learning outcomes by additional project stakeholders. In one of the few examples available, Karayan and Gathercoal (2003) included multiple stakeholders in an investigation of the value of a service learning project. This project employed a reciprocal empowerment model to determine stakeholders’ perceptions. According to the authors, use of this model provided quality service, involved collaboration, and represented stakeholders’ voices. The purpose of the current study was to use the reciprocal empowerment model to determine two community stakeholder groups’ (parents/guardians and school staff members) and graduate students’ perceptions of project outcomes and the social and learning benefits of the feeding improvement program service learning project of students who were enrolled in a graduate-level speech-language pathology course.

**METHOD**

**Participants**

A total of 34 graduate students participated in a service learning project associated with a graduate course entitled “Evaluation and Management of Dysphagia” in the Department of Speech Pathology and Audiology at Illinois State University. Thirty-two students participated as feeding therapists/clinicians in a feeding improvement program in two school settings—an elementary school and a junior high school. Due to scheduling conflicts, 2 additional students chose alternative service projects. The primary service learning project included the provision of therapeutic, instructional, and positive reinforcement behavior management methods that were individually designed to improve the feeding and swallowing skills of 13 children and youth with moderate-severe or multiple disabilities, aged 4 to 17, who were identified as having feeding and/or swallowing problems. Trained and supervised graduate students were involved in every aspect of the school-based mealtime program, including food preparation and diet modification, environmental modification, selection and use of adaptive feeding and positioning equipment, provision of therapeutic feeding services, management of augmentative communication devices for mealtime use, behavior management, and school staff and parent/guardian education and training. These 32 graduate students provided therapy services on alternating days, either Tuesday/Thursday or Monday/Wednesday, so that 2 students provided therapies for the same child each week. Depending on young students’ and graduate students’ attendance, approximately 3 or more graduate students arrived at the school per project day than were needed to work with children. Extra students were randomly assigned as independent data collectors for other clinician–child pairs. Graduate students took turns as independent data collectors as assigned by the project director. These student therapists wrote weekly reflections on their experience and discussed these reflections in class on a weekly basis.

Alternative projects were offered for 2 students who had scheduling conflicts. Alternative projects consisted of viewing videotapes, collecting data from the videotapes for specified feeding skills and/or mealtime behaviors (thereby serving as independent interraters for the 32 graduate
students involved in the feeding improvement program), and submitting written reflections of observations. Additionally, these 2 students compiled a set of written materials that were used with school staff members for training and education purposes.

A total of 12 school staff members also participated in the investigation. The school staff member participants included 3 special educators, 2 school nurses, and 7 classroom assistants. At the completion of the service learning project, school staff members were given addressed, stamped envelopes with the survey instrument and were asked to complete and return the surveys within 2 weeks. If no response was received following the 2-week timeline, a second letter of request containing the survey was sent to potential participants. Each of the school staff members participated in the education and training component of the project.

Participation in the investigation was requested of each of the 13 parents/guardians of the young students who participated in the service learning project. At the completion of the project, a written letter of request with an attached survey instrument was sent to each family of the students participating in the feeding improvement program. If 2 weeks passed without response, a follow-up written request and survey were sent to participants. No further requests were sent if no response was received after the second 2-week period. All potential participants were identified as parents and/or legal guardians of the young students who participated in the feeding improvement program.

Instrumentation

Survey instruments containing open-ended and Likert-type response items were used to determine the perceptions of three stakeholder groups: graduate students, school staff members, and parents/guardians of children and youth involved in the project. Because of their disabilities, the children and youth could not be surveyed in the same manner as the other stakeholders. However, data were collected daily by graduate student clinicians for individually determined goals as a way to evaluate the children’s and youth’s responses to the treatment program. These results are available elsewhere (Bailey & Angell, 2005).

At the completion of the 14-week service learning project, the graduate students were given surveys during a class period and were asked to individually complete and return the surveys during the following week before the semester’s end. Surveys included five questions with a 5-point Likert-type response scale and three open-ended questions. See the Appendix for a list of graduate student survey questions.

A total of 12 school staff members were given surveys at the completion of the project. These school staff members were those who had been present in the school’s classroom or lunchroom during at least 50% of the implementation of the feeding improvement program. These respondents included 3 special educators, 2 school nurses, and 7 classroom assistants. The school staff member survey included three open-ended questions. See the Appendix for a list of school staff member survey questions.

A total of 13 surveys were mailed to parents/guardians of the 13 children and youth who participated in the school-based feeding improvement program. The parent/guardian surveys included three open-ended questions. See the Appendix for a list of parent/guardian survey questions.

RESULTS

Graduate Student Surveys

Of the 34 surveys distributed, 33 were returned, yielding a 97% response rate. Table 1 presents a summary of responses from 31 graduate students who participated in the feeding improvement program service learning project. The responses of 2 students who completed alternate assignments are reported in Table 2. Responses to questions ranged from 2 (disagree) to 5 (strongly agree) on the Likert-type scale. An overall Likert-scale response mean of 4.62 (SD = .545) resulted from the surveys of the 31 graduate students who participated in the feeding improvement program. The highest mean response (4.84, SD = .475) was to Question 3, indicating that nearly every student responded agree or strongly agree that they perceived the service learning project as an educational experience. Mean response to Question 4 was 4.71 (SD = .529), indicating that a high percentage of respondents felt that the project heightened their interest in providing service to children and youth with feeding problems in school settings. Question 1 yielded a mean response of 4.62 (SD = .558), indicating that most graduate students thought that the service learning experience increased their understanding of course concepts. Question 2 yielded a mean response rate of 4.48 (SD = .626), indicating that most of the respondents perceived the class as “more enjoyable” because of the service learning component. Question 5 yielded a mean response rate of 4.45 (SD = .558), indicating that the graduate student participants had a strong desire to enroll in another course with a service learning component. This represented the lowest mean response for these 31 respondents.

The 31 graduate student participants’ responses to open-ended survey questions were also overwhelmingly positive (see Table 1). Of the returned surveys, 100% yielded positive comments about what was learned through participation in the service learning project as well as comments linking learning gained in the content of the university course to the service learning project. Several areas of learning were reported that were not included as a formal part of the course content, and therefore could be exclusively associated with participation in the project. For example, graduate student participants expressed learning in areas that included the structure and function of a school-based feeding team, intricacies involved in working as a team member, facilitating communication in the feeding environment, the complex relationship between behavior and learning, and the individuality of children with disabilities. All of the graduate students (100%) indicated that they would recommend a course with a service learning component to fellow students.
Several graduate student participants suggested changes and/or modifications to the service learning experience. More than half of the participants who returned surveys (61%) reported that they would have liked working with more than 1 child during the project in order to enhance their experiences. Two (6%) advocated journaling between the 2 graduate students assigned to each child rather than relying on individual reflections and classroom-based discussions. Several students (24%) reported that they would have preferred individualized training to the full-day training session that was provided before initiation of the program by the course instructor. Four participants (12%) suggested that the data collection aspect of the feeding program was difficult to manage.

Table 2. Student survey response means for participants choosing alternate projects.
Unfortunately, survey responses of the 2 students who completed alternate assignments did not yield similarly favorable results. The 2 students’ responses were surprisingly identical. A mean response of 3.0 ($SD = 0$) was indicated for Questions 1, 2, and 3, indicating that these 2 graduate students were neutral about the educational nature of the experiences associated with their assignments and about the ability of their chosen project to help them better understand course concepts or to make the course more enjoyable. Questions 4 and 5 yielded a mean of 2.0 ($SD = 0$), indicating that these 2 students disagreed with a statement suggesting that their chosen service learning experience had served to heighten their desire to help children and youth with feeding problems or that they were likely to enroll in another course with a service learning component. In response to Question 7 (“What would you change about this project, if possible?”), both of these participants expressed regret about choosing the alternative project. Both students left their surveys blank in response to Questions 6 and 8.

**School Staff Member Surveys**

A total of 12 surveys were given to school staff who were involved in the project. Of the 12, six were returned, yielding a response rate of 50%. Each of the school personnel included positive comments regarding changes in feeding skills and mealtime behaviors for the children and youth in their respective classrooms. Comments included the following:

- “I saw great results for all of the goals set for both of the kids I’ve assisted with.”
- “The kids really worked hard at meeting their own goals for stickers and other rewards.”
- “[Child’s name] is now licking her lips with a visual prompt occasionally—she is also wiping her own mouth when prompted.”
- “There are several students doing better in the area of self-feeding.”
- “The medically fragile students increased their level of active participation.”
- “The higher functioning students showed an increase in eating skills and appropriate manners.”

When asked about participating in a future similar project, 100% of the school staff members’ survey responses were positive. None of the school staff members included suggestions for future goals for children and youth. Three included additional comments regarding the participation of university graduate students: “The one-on-one [learning opportunity] gives each [graduate] student such a wonderful opportunity to work on skills and learn new skills.” “I appreciate the oral–motor programs that are now in place.” and “It’s a good experience for the college students to work with this population of children.” School staff members made no negative comments regarding any aspect of the service learning project.

**Parent/Guardian Surveys**

A total of 13 surveys were sent to parents/guardians of the 13 children and youth who received feeding improvement/speech pathology services through the service learning project. Six of the thirteen surveys were returned, yielding a response rate of 46%. One of the parents/guardians reported noting progress in her child’s independent feeding skills. Another parent reported that her son “eats slower, chews longer, and uses his napkin” and “his table manners have improved.” Another reported “some changes,” but didn’t explain what the changes were. One parent reported that her son “no longer chokes at meals—that used to be a concern before your project” and another noted “improved lip closure over the spoon.” One parent noted a negative effect. She indicated that her daughter “seems to gag more—[we] may be sitting her in a different position at home than at school.” Three of the six parents suggested a total of six ideas for additional goals for future service learning projects; three offered no suggestions. Five of the six parents reported that they would like their son or daughter to participate in a similar program in the future. Another parent wrote that she would like her daughter to be involved in a future project under the condition that “we can get together on positioning.”

**Indications of Institutionalization of the Feeding Improvement Program**

School staff in all three classrooms verbally reported an intention to continue the components of the feeding improvement program after completion of the service learning project, indicating institutionalization of the project. The 3 lead special education teachers who participated in the study independently requested a consultation with the instructor (i.e., the service learning project director) at the end of the semester for the purpose of determining feeding goals for their students’ individualized education programs (IEPs) for the following school year. Additionally, the instructor stopped by one of the schools without notice after the project was completed for the purpose of restocking therapy materials in the classroom. Although the visit was unscheduled, it occurred just before the lunch meal. The school staff members were observed implementing the oral–motor stimulation programs and using prescribed therapeutic feeding and positive reinforcement methods that had been demonstrated in the service learning project. Therefore, the prospect of institutionalization and continuance of the program appeared promising.

**DISCUSSION AND IMPLICATIONS**

**Graduate Student Surveys**

Graduate students who participated in the feeding improvement program were highly supportive of the program and provided evidence that they perceived a high degree of social value for this service learning project. Additionally,
their responses to open-ended questions suggested that they perceived increased learning above and beyond course content as a direct result of this project. Thirty of the thirty-one graduate students who participated in the service learning project mentioned their willingness to participate in future courses that included a service learning component. Mean responses by students to Questions 1 and 3 (4.62 and 4.84, respectively) suggested that most students perceived learning benefits related to the service learning project. These findings were in agreement with those of Markus et al. (1993), who reported increased learning outcomes for students involved in service learning projects. Perceived increased learning outcomes reported in this investigation add to the existing evidence for one of the primary tenets of service learning—that interaction of knowledge and skills with active experience is key to learning (Ehrlich, 1996).

Students participating in the feeding improvement program also indicated at a convincing rate ($M = 4.48$) that they found their “Evaluation and Management of Dysphagia” course more enjoyable because of the service learning component. This is significant because the service learning project required each graduate student participant to dedicate a minimum of 3 additional hours to the project outside of class per week; some graduate students were involved for up to 5 additional hours per week. Student written responses such as, “I was better able to apply what I was learning in class to the real world,” “I know my knowledge has expanded to the fullest extent,” and “If at all possible, I think more students should be given the opportunity to be involved in the feeding improvement program. If they can’t be directly involved, it would be valuable to have them observe” also provided evidence of graduate students’ perceptions of the learning benefits associated with the project.

Survey results for graduate students participating in the feeding improvement program also indicated evidence of increased social responsibility by participating graduate students. Specifically, responses to Question 4, with a mean response rate of 4.71, indicated that most students who were involved in the project experienced a heightened desire to help children and youth with feeding problems as a direct result of service learning. This was particularly rewarding because increased social responsibility is a commonly expressed goal of service learning (Raupp & Cohen, 1992). The addition of service learning to this course curriculum appears to have positively affected the graduate students’ interest in helping others within their community.

It is important to note that responses to survey questions for the 2 graduate students who completed alternate assignments did not yield similarly favorable results. The 2 students’ responses were uniformly neutral and negative about their selected experiences. Both expressed regret about choosing the alternative project. It is not known whether the negative responses were due to the alternative project itself or whether these 2 students may have felt isolated from the rest of the class during class periods when the service learning project was discussed.

### School Staff Member Surveys

School staff member surveys were overwhelmingly supportive of the service learning project. Returned surveys indicated high levels of support of the project, with 100% of returned surveys containing positive comments. All school staff members who returned surveys noted positive feeding-related learning outcomes for the young students who were served by the project. At the end-of-semester luncheon, school staff members discussed the results of the project with the graduate students and their instructor. This luncheon offered the graduate students, school staff members, and parents/guardians a chance to compare their perceptions of outcomes and reflect on the experience. Graduate students’ written reflections indicated that this opportunity for sharing was a valuable part of the service learning experience.

### Parent/Guardian Surveys

Parent/guardian surveys were generally positive, with 87% of the 6 survey participants reporting positive results regarding their observations of improvements in their children’s feeding skills, self-feeding skills, or mealtime behaviors and manners. Five of the 6 returned surveys indicated that these parents or guardians would like their children to participate in a similar project again. A parent/guardian and school staff member luncheon held at the end of the school semester was attended by 75% of the 13 participating parents/guardians, including several who did not return surveys. Comments made at the luncheon provided further indication of parent/guardian support of this project and future similar projects. It is not known why 50% of the parents/guardians did not return surveys.

### RESULTS

This investigation, based on a reciprocal empowerment model (Karayan & Gathercoal, 2003), appears to have provided quality service, involved collaboration, and represented stakeholders’ voices. Results of this investigation yielded evidence of positive outcomes for the children and youth served by this service learning project (Bailey & Angell, 2005). Additionally, positive social and learning outcomes were perceived by graduate speech-language pathology student participants. School staff members and parents/guardians also reported high levels of satisfaction with the service learning project and indicated support for future similar projects.

Positive results of this project demonstrate the effects of providing support to graduate students who are engaged in service learning that not only enhances their academic curriculum but also fosters their sense of civic responsibility, motivating them to meet the needs of children in their communities. Requiring graduate students to reflect on their service learning experiences in this project helped them see the connection between the application of their knowledge and skills and their perceived personal and professional

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benefits. According to Ehrlich (1996), this interaction is essential to learning.

In this project, speech-language pathology students benefited directly as they provided effective services and felt that they experienced significant learning. Within the reciprocal empowerment model, parents, children, and youth who participated in the project also benefited as they experienced the tangible effects of the graduate students’ application of their knowledge and skills in a school-based service learning environment. Although there are lessons to be learned from this project, results appear to offer a successful example of an effective combination of service and learning in the field of speech-language pathology.

REFERENCES


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APPENDIX. PARTICIPANT SURVEYS

Graduate Student Participant Survey

Please indicate how strongly you agree or disagree with each of the following statements by circling the number that best describes your opinion.

1 = Strongly disagree  
2 = Disagree  
3 = Neutral  
4 = Agree  
5 = Strongly agree

1. The service learning experience helped me to understand course concepts better.
   Strongly disagree 1 2 3 4 5 Strongly agree

2. The service learning experience made this course more enjoyable.
   Strongly disagree 1 2 3 4 5 Strongly agree

3. The service learning experience was an educational experience.
   Strongly disagree 1 2 3 4 5 Strongly agree

4. The service learning experience heightened my desire to help children and youth with feeding problems.
   Strongly disagree 1 2 3 4 5 Strongly agree

5. I would like to enroll in other courses that offer service learning experiences.
   Strongly disagree 1 2 3 4 5 Strongly agree

6. Did you gain any knowledge from this experience that was above/beyond information gained in your “Evaluation and Management of Dysphagia” course? If so, please describe.

7. What would you change about this project, if possible?

8. Would you recommend taking a course that included a service learning project to a fellow student? Why or why not?

School Staff Member Survey

1. Have you noticed any changes in feeding skills or mealtime behaviors of the children/youth in your classrooms since the beginning of the service learning project? Please explain.

2. If we were able to continue this project in the next school year, would you be interested in allowing your students to participate? Why or why not?

3. Are there additional areas of feeding or swallowing concerns that you would like to see addressed in a future project? Please explain.

Parent/Guardian Survey

1. Have you noticed any changes in your child’s eating skills or mealtime behaviors since the beginning of the service learning project? Please explain.

2. If this project were able to be continued next year, would you be interested in allowing your son or daughter to participate? Why or why not?

3. Are there additional areas of feeding or swallowing concerns that you would like to see addressed in a future project? Please explain.